

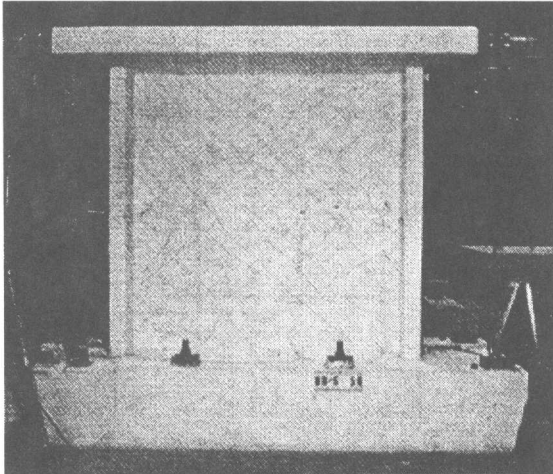
DAMAGE PATTERNS AND HYSTERETIC RESPONSE

System: Reinforced Concrete
 Component Type: Isolated Wall or Stronger Wall Pier
 Predominant Behavior Mode: Preemptive Web Crushing
 Secondary Behavior Mode: —

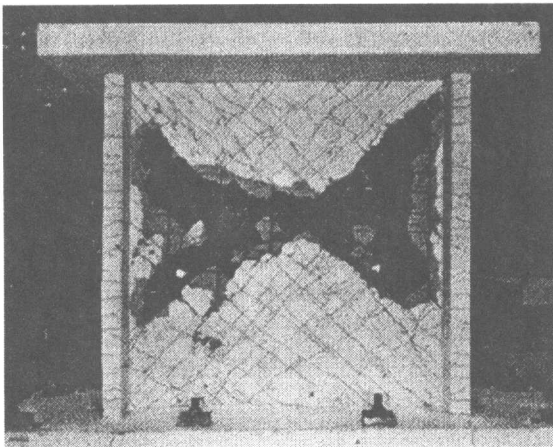
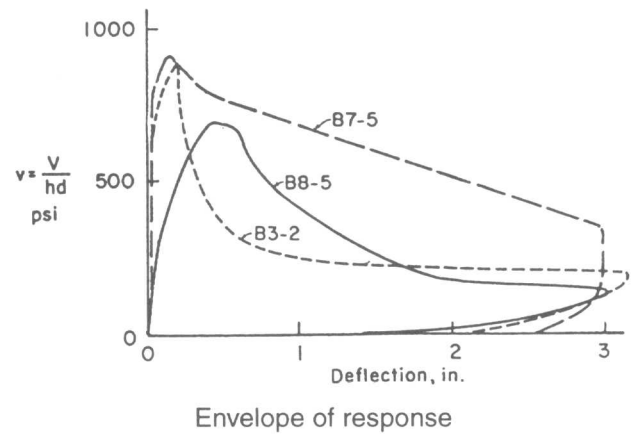
RC1I

Example 2 of 2

Reference: Barda (1972), Barda, Hanson, & Corley (1976)
 Specimen: B8-5



Test specimen at ultimate load
 $\Delta = 0.2$ in $\Delta/h_w = 0.005$ $\lambda_Q = 1.0$



Test specimen at conclusion of loading
 $\Delta = 3.0$ in $\Delta/h_w = 0.040$ $\lambda_Q = 0.2$

Provided Information	Calculated Values	Δ	Δ/h_w	λ_Q
$h_w = 75$ "	$P = 7.5$ k	0.45	0.006	1.0
$f_y = 71$ ksi	$M_n = 2000$ k-1	0.60	0.008	0.9
$f'_c = 3400$ psi	$\frac{V}{b_w l_w}$ corresponding to $M_n = 1070$ psi	0.80	0.011	0.7
		1.20	0.016	0.5
		1.70	0.023	0.3
		3.00	0.040	0.2

DAMAGE PATTERNS AND HYSTERETIC RESPONSE

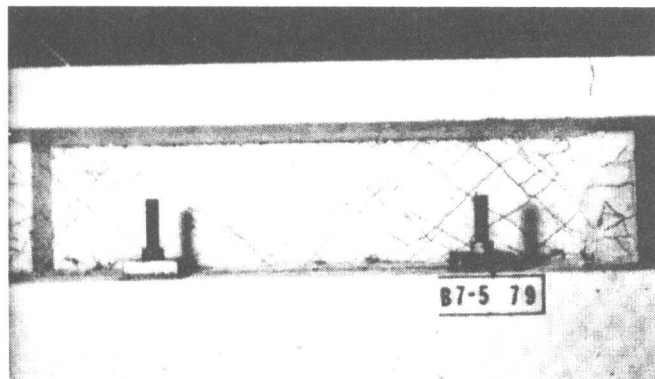
System: Reinforced Concrete
Component Type: Isolated Wall or Stronger Wall Pier
Predominant Behavior Mode: Preemptive Sliding Shear
Secondary Behavior Mode: Web Crushing

RC1J

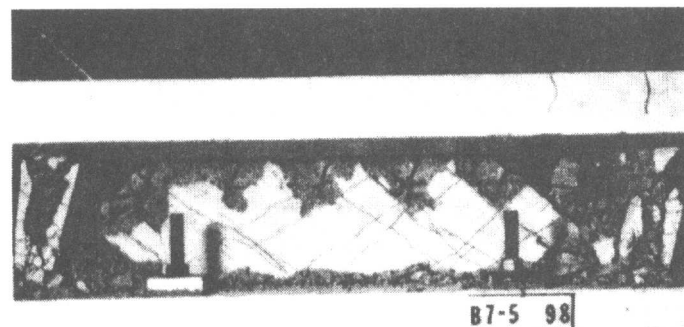
Example 1 of 1

Reference: Barda (1972), Barda, Hanson, & Corley (1976) (Lehigh Univ.)

Specimen: B7-5



Test specimen at ultimate load
 $\Delta = 0.15$ in $\Delta/h_w = 0.008$ $\lambda_Q = 1.0$



Test specimen at conclusion of loading
 $\Delta = 3.0$ in $\Delta/h_w = 0.160$ $\lambda_Q = 0.4$

Provided Information

$h_w = 18.75$ in

$f_y = 78$ ksi

$f'_c = 3730$ psi

Calculated Values

$P = 3.6$ k

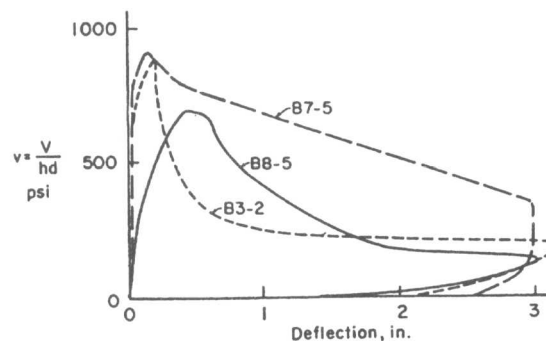
$M_n = 2180$ k-in

V corresponding to

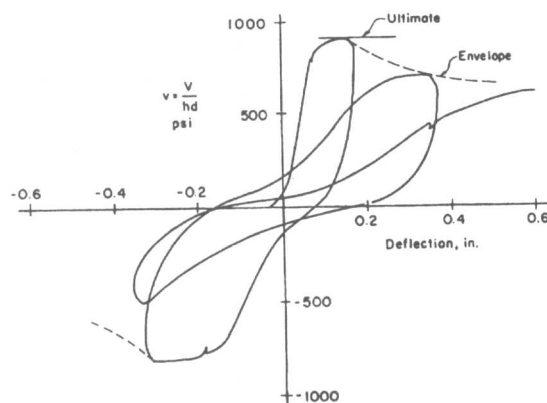
$b_w l_w$
 $M_n = 4600$ psi

λ_Q values from response plot

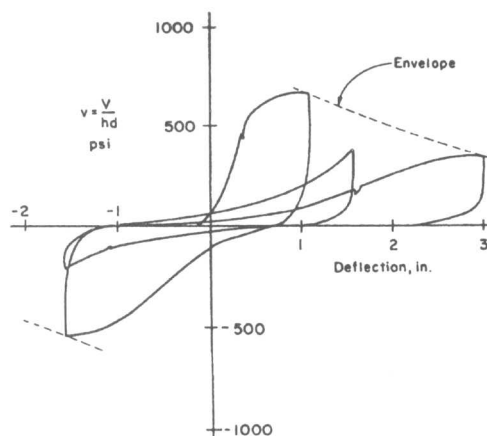
Δ	Δ/h_w	λ_Q
0.15	0.008	1.0
0.30	0.016	0.9
0.70	0.037	0.8
1.80	0.096	0.6
3.00	0.160	0.4



Envelope of response



Hysteretic response to 0.6 in.



Hysteretic response to 3.0 in.